

*Evidence of great Destruction of Life last Winter off the
New-England Coast.*

In a report upon the dredging-operations carried on in the summer of 1882 under the auspices of the U.S. Fish Commission, Prof. Verrill gives the following account of a remarkable destruction of several usually abundant forms of animals. He says :—

One of the most peculiar facts, connected with our dredging this season was the scarcity or total absence of many of the species, especially of Crustacea, that were taken in the two previous seasons, in essentially the same localities and depths, in vast numbers, several thousands at a time. Among such species were *Euprognatha rastellifera*, *Catapagurus socialis*, *Pontophilus brevirostris*, and a species of *Munida*. The latter, which was one of the most abundant of all the Crustacea last year, was not seen at all this season. An attempt to catch the "tile-fish" (*Lopholatilus*) by means of a long trawl-line, on essentially the same ground where eighty were caught on one occasion last year, resulted in a total failure this year. It is probable therefore that the finding of vast numbers of dead tile-fishes floating at the surface, in this region, last winter, as was reported by many vessels, was connected with a wholesale destruction of the life at the bottom, along the shallower part of this belt (in 70 to 150 fathoms), where the southern forms of life and higher temperatures (48° to 50°) are found. This great destruction of life was probably caused by a very severe storm that occurred in this region at that time, which, by agitating the bottom-water, forced outward the very cold water that, even in summer, occupies the great area of shallower sea, in less than 60 fathoms, along the coast, and thus caused a sudden lowering of the temperature along this narrow warm zone where the tile-fish and the Crustacea referred to were formerly found.

As the warm belt is here narrow, even in summer, and is not only bordered on its inner edge, but is also underlain by much colder water, it is evident that even a moderate agitation and mixing up of the warm and cold water might, in winter, reduce the temperature so much as to practically obliterate the warm belt at the bottom. But a severe storm, such as the one referred to, might even cause such a variation in the position and flow of the tidal and other currents as to cause a direct flow of the cold inshore waters to temporarily occupy this area, pushing outward the Gulf-stream water. The result would be the same in either case, and could not fail to be destructive to such species as find here nearly their extreme northern limits.

In order to test this question more fully, Prof. Baird also employed a fishing-vessel, the 'Josie Reeves,' to go to the grounds and fish systematically and extensively for the tile-fish. On her first trip, ending September 25, she did not find any "tile-fish," but took another food-fish (*Scorpena dactyloptera*), known on the European coast, and first taken by us in 1880.—*Amer. Journ. Sci.*, Nov. 1882, p. 366.